An internet behavioural counselling weight loss programme reduced weight and BMI in patients at risk of type 2 diabetes

Tate DF, Jackvony EH, Wing RR. Effects of Internet behavioral counseling on weight loss in adults at risk for type 2 diabetes: a randomized trial. JAMA 2003;289:1833-6.

website extra
Additional information
appears on the
Evidence-Based
Medicine website.
www.evidencebasedmedicine.com

QUESTION: In patients at risk of type 2 diabetes mellitus, is an internet behavioural counselling weight loss programme better than a basic internet weight loss programme for reducing weight?

Design

Randomised (allocation concealed)[†], (unblinded*)[†], controlled trial with 12 months of follow up.

Setting

A research centre in Providence, Rhode Island, USA.

Patients

92 overweight or obese (body mass index [BMI] 27-40 kg/m²) patients (mean age 48 y, 90% women) with ≥ 1 other risk factor for type 2 diabetes, and access to a computer. Exclusion criteria were major health or psychiatric disease, pregnancy, or recent weight loss ≥ 4.5 kg. Follow up was 84% at 12 months; all patients were included in the analysis.

Intervention

All patients received a 1 hour internet tutorial; a written guide; and a standard behavioural weight control instruction on diet, exercise, and behaviour change. Patients were allocated to a basic internet weight loss programme (a web site consisting of a tutorial on weight loss, a new tip and link each week, a directory of selected internet weight loss resources and information, and an email reminder to submit weight) (n=46), or an internet behavioural counselling weight loss programme (the basic internet weight loss programme plus personal e-counselling by a weight loss professional, who provided email feedback on the self monitoring record, answers to questions, reinforcement, recommendations for change, and general support for 5 days/week in the first month, then weekly thereafter) (n=46).

Main outcome measures

Change in body weight from baseline to 12 months, BMI (calculated as weight/height²), waist circumference, and venous blood glucose (VBG).

Main results

Analysis was by intention to treat. At 12 months, the internet behavioural counselling group lost more weight, and had a greater reduction in BMI and waist circumference than those in the basic internet group (table). Although at 12 months the groups did not differ for VBG, the internet behavioural counselling group had a greater reduction in VBG after 3 months (mean difference -0.26 v -0.02 mmol/L, p=0.01).

Conclusion

In patients at risk of type 2 diabetes mellitus, the addition of behavioural counselling to a basic internet weight loss programme was effective for reducing weight and body mass index.

*See glossary.

[†]Information provided by author.

Source of funding:
American Diabetes
Association.

For correspondence:
Dr D F Tate, Brown
University School of
Medicine/Miriam
Hospital, Providence,
RI, USA.
dtate@lifespan.org

Internet behavioural counselling weight loss programme v basic internet weight loss programme for patients at risk of type 2 diabetes mellitus[†]

Outcomes at 12 months	Mean change from baseline		Difference in mean change from baseline (95% CI)
	Internet behavioural counselling	Basic internet	
Reduction in weight (kg)	-4.4	-2.0	2.4 (-0.1 to 4.9)
Body mass index	-1.6	-0.8	0.8 (-0.04 to 1.8)
Waist circumference (cm)	-7.2	-4.4	2.8 (0.02 to 5.6)

[†]CI defined in glossary. Difference in mean change from baseline calculated from data in article.

COMMENTARY

Obesity in the western world has reached epidemic proportions, and decreases lifespan either because of its association with vascular risk factors, such as diabetes, hyperlipidaemia, and hypertension, or because of less understood associations such as breast cancer. With the increase in the number of issues addressed during a medical encounter with general practitioners (GPs), innovative approaches to achieve intentional weight loss are urgently needed. Furthermore, a substantial number of overweight adults prefer to lose weight without face to face encounters with physicians.¹

Tate *et al* used internet based education with or without behaviour therapy to achieve and maintain weight loss in 2 studies.² Strengths of this study include a patient centred modality to achieve goals, the ability to achieve results in older adults and novice internet users, and study duration of 1 year. Because the lower limit of the confidence interval for the outcomes of weight loss and BMI was < 0, this study is not definitive. However, it shows the feasibility of e-counselling for weight loss.

In practice, the provision of e-counselling is challenged by such systemic barriers as lack of reimbursement strategies for e-encounters in fee for service environments; lack of multidisciplinary teams (including e-counsellors) to support general practices in specialised tasks such as weight loss; and lack of secure, reliable, online communication among GPs, specialists, the multidisciplinary support team, and the patients.

An e-counselling programme that is well funded and supports patient self efficacy (including weight loss) with adequate communication with the patient and the clinical team may represent a solution for care that is currently inadequate, ineffective, and fragmented. Because obesity is associated with clustering of vascular risk factors, it is vital that effective weight loss approaches are incorporated into the general care of obese people with ≥ 1 vascular risk factor such as diabetes, hypertension, and hyperlipidaemia. These patients would not only benefit the most from such an integrated approach, but may also stand to lose the most if their medical care is fragmented.

Yogish C Kudva, MD
Mayo Clinic
Rochester, Minnesota, USA

- 1 Sherwood NE, Morton N, Jeffery RW, *et al*. Consumer preferences in format and type of community-based weight control programs. *Am J Health Promot* 1998;13:12-8.
- 2 Tate DF, Wing RR, Winnett RA. Using Internet technology to deliver a behavioral weight loss program. *JAMA* 2001;285:1172-7.